PFE ORIGINAL

CHEMCLENE SITE DEFENSE GROUP
c/o LANGSAM STEVENS & MORRIS LLP
1616 WALNUT STREET - SUITE 812
PHILADELPHIA, PENNSYLVANIA 19103
215-732-3255
FAX 215-732-3260

September 22, 1998

Linda R. Dietz, 3HS21
Remedial Project Manager
U.S. Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

* We need comments on CD
- Beyond 1st 30 days HQ approval
- Design schedule for ROD remedy.
- WP Schedule should not include padding time to include Work.

Re: Malvern/Chemclene TCE Superfund Site ("Site")

Dear Ms. Dietz:

I am writing on behalf of the parties identified on ***Exhibit "A"*** attached hereto who have formed the Chemclene Site Defense Group (the "Group"). Based on the discussions in a September 11 meeting that included all of its Members, the Group hereby responds to your letter of September 1 in which you notified the Group that its August 17 response to Abraham Ferdas' letter and attachments dated May 4, 1998 (the "Special Notice"), has not been received as a "Good Faith Offer."

First and foremost, the Group restates its commitment to conduct or finance the remedy set forth in the Record of Decision for the Site (the "ROD"). In support of this commitment, the Group is prepared to begin discussions immediately on a Consent Decree, and/or an Administrative Order on Consent for Remedial Design ("Design Order"), that will provide the framework for implementing the ROD.

Moreover, the Group has already raised the funds necessary to immediately begin pre-design activities. These activities are set forth in a Request For Proposals dated September 2, 1998, a copy of which is attached hereto as ***Exhibit "B"*** (the "RFP"). The RFP has been distributed to a short list of contractors who will provide bids within two weeks of inspecting the Site. Shortly after the bids are received, the Group, with the assistance of its consultant, *de maximis, inc.*, will contract with the winning bidder so that work may begin as soon as possible.

The Group agrees with your comments set forth under Item (1) and Item (2) of your September 1 letter. The ROD estimate provides a basis for negotiations on a Consent Decree and/or a Design Order. The next step is to take the ROD's conceptual plan for cleanup, and create a structure that ensures it will be implemented successfully. The Group has preliminarily reviewed the draft Consent Decree and Design Order that were attached to the Special Notice, and recommends inclusion in any Consent Decree and/or Design Order, provisions that resolve the following issues:

- Use of de minimis settlement funds
- Treatment of Chemclene's share of liability
- Consideration of the United States' share of liability as a generator – Contact Eve Wilkerson
- Inclusion of different types of settlors, including Work Parties and Cash Out Parties
- Treatment of orphan shares of liability
- Consideration of division of responsibility between the Former Disposal Area and the Main Plant Area
- Inclusion of reopeners what happens to money recovered if we get any more de minimis $ or if demin parties become demap
- Linkage between the de minimis settlement and any Consent Decree or Order with the Group
- Treatment of non-settling, de minimis parties who are not members of the Group non settlors - recalitrant PRPs

The Group has authorized its representatives[1] to begin negotiations that will resolve these and other issues when we meet with you and other EPA officials on September 25. In addition to addressing the above Consent Decree and Design Order issues, the Group is prepared to discuss the questions of Site access, both short term and long term scheduling of ROD-related work, and the status of any continuing work by the

---

[1] Samuel I. Gutter, Esquire and John Cutrone (Lucent Technologies Inc.), Andrew P. Foster, Esquire (Reilly Plating Co., Inc. and Moore Products Co.), Scott Zelov (VIZ Manufacturing Co.), and Kathryn Chellman and I (Syntex (U.S.A.), Inc.), have been authorized to represent the Group at the September 25 meeting.

United States EPA Region III on the Volumetric Ranking Summary (the "VRS") for the Site.

To further demonstrate its good faith, the Group has already begun discussions with the Philadelphia Suburban Water Co. on the public water supply component of the ROD. The Group will provide a report on this issue at our meeting on the 25th.

In conclusion, the Group affirms its good faith offer to work with the United States EPA, the Commonwealth of Pennsylvania, and other stakeholders to achieve a successful, cost-effective clean-up of the Site. We look forward to our meeting so that we can begin discussions on a Consent Decree and/or Design Order, and the other issues mentioned above. Please contact me at your convenience if you have any questions or require anything further.

Very truly yours,
CHEMCLENE SITE DEFENSE GROUP

Mark A. Stevens, Esquire
Acting Liaison Counsel

cc: J. Johnson, Esquire

Exhibit "A"

The following parties, with the PRPs identified on the Volumetric Ranking Summary dated 4/27/98 shown in parentheses, have formed the Chemclene Site Defense Group:

Action Manufacturing Company
Aluminum Company of America (ALCOA)
Armstrong World Industries, Inc.
(Armstrong Cork Company)
Aydin Corporation
Bailey Fischer & Porter Company
(Fisher & Porter Co./Andrews Glass Company, Inc.)
Barker Pipe Fittings Co. (Penflex, Inc.)
Beckett Corporation
Bulova Technologies LLC
(Hamilton Technology, Inc.)
Cabot Corporation
(Cabot Grouping/Cabot Wrought Products)
Cyprus Amax Minerals Company
(Cyprus Foote Mineral Co.)
Delbar Products, Inc.
General Electric Company
(RCA Corporation)
General Motors Corporation
Hamilton Precision Metals
Hamilton Watch Company
Handy & Harman Tube Company
KIM Manufacturing Company
LaFrance Corp.
Lockheed Martin Corporation
(General Electric)
Lucent Technologies Inc. (Western Electric)
Moore Products Co.
NW Controls, Inc.
Plymouth Tube Company
PP&L, Inc. (PP&L Northern Div. S.C.)
Porter Instrument Co., Inc.
Reilly Plating Co., Inc.
Simon Wrecking Co.
Syntex (U.S.A.), Inc.
(Syntex Grouping/A. S. Koch)
The Times Mirror Company
(Morning Call, Inc.)
Unisys Corporation
(Burroughs Corporation/Sperry Corporation)
USG Corporation (USG Grouping)
Vishay Intertechnology, Inc.
(Vishay Resistive Systems, Inc.)
VIZ Manufacturing Company.

Exhibit "B"

Request for Proposal for Pre-Design Investigation

REQUEST FOR PROPOSAL
PRE-DESIGN INVESTIGATION

Malvern TCE Superfund Site
East Whiteland Township
Chester County, PA

Prepared For:

The Chemclene Site Defense Group

Prepared By:

de maximis, inc.
1125 South Cedar Crest Boulevard
Suite 202
Allentown, PA

September 2, 1998

Request for Proposal
Pre-Design Investigation
Malvern TCE Site

TABLE OF CONTENTS

Request for Proposal
Pre-Design Investigation
Malvern TCE Site

TABLE OF CONTENTS

Malvern TCE Site
Pre-Design Investigation Request for Proposal

1.0 INTRODUCTION

The Chemclene Site Defense Group (CSDG) is comprised of a group of companies who are contemplating remediation of the Malvern TCE Superfund Site (a.k.a Chemclene Superfund Site) [Site] located in East Whiteland Township, Chester County, Pennsylvania. The EPA selected Remedy for the Site, as set forth in the November 1997 Record of Decision (ROD) and described in the following sections of this Request for Proposal (RFP), addresses the remediation of contaminated soil and groundwater at the Site and the conveyance of public water to residents impacted or potentially impacted by Site activities.

The CSDG is issuing this RFP with the intent to solicit cost and services proposals from qualified firms to conduct a Pre-Design Investigation (PDI) that will provide the necessary data to allow the CSDG to negotiate a Consent Decree or Administrative Order on Consent with the United States in connection with the Site. This includes reviewing opportunities and collecting the appropriate data to evaluate other potentially less costly remedial alternatives for the Site.

Information necessary to respond to this RFP can be found in the following documents:

- Remedial Investigation Report for Malvern TCE Site (CH2M HILL, January 1997)
- Malvern TCE Site Final Feasibility Study Report (CH2M HILL, June 1997)
- Hydrogeologic Investigation of the Malvern TCE Superfund Site (Sloto, R.A., USGS Water Resources Investigations Report 96-4286)
- Superfund Program Record of Decision (USEPA, November 1997)

These documents will be made available to you by ***de maximis, inc.*** on behalf of the CSDG for a fee of $100 (estimated cost of reproduction and shipping) or can be obtained directly from the information repository located at the Chester County Library and directly ordered from the USGS. For a copy of the referenced documents, please send a check payable to ***de maximis, inc.*** to the following address:

Attention: Chris R. Young
de maximis, inc.
1125 South Cedar Crest Blvd.
Suite 202
Allentown, PA 18103
Phone: (610) 435-1151

The documents will be delivered within five (5) working days from receipt of payment.

A pre-bid meeting is in the process of being scheduled and you will be notified as soon as a date has been confirmed with EPA and Chemclene.

To facilitate review by the CSDG, the proposal and cost estimate should be prepared in accordance with all of the instructions and examples provided in this RFP. Proposals which do not conform to the RFP format may be rejected by the CSDG.

2.0 BACKGROUND

The Site is located in East Whiteland Township, Chester County, Pennsylvania. In 1993, EPA initiated remedial activity at the Site under the Superfund program. EPA completed a Remedial Investigation (RI) of the Site in January 1997 and a Feasibility Study in June 1997. The Proposed Plan for a comprehensive Site cleanup was issued in June 1997. A detailed description of the Site history, regulatory activity, Site characterization and alternatives evaluation can be found in these documents.

In November 1997, EPA signed a Record of Decision presenting the final selected remedial action for the Site. The remedy addresses an alternate water supply, capping of soils and groundwater remediation at the Main Plant Area (MPA), excavation and off-site treatment and disposal of contaminated soils at the Former Disposal Area (FDA) and Natural Attenuation of groundwater at the Former Disposal Area.

The selected remedy includes the following major components:

1. ***Water Supply:*** Installation of a waterline to prevent contact with groundwater contamination at residences affected or potentially affected by the Site.

2. ***Main Plant Area Soils:*** Installation of a cap to prevent direct contact with contaminated soils at the Main Plant Area and to reduce the potential for continued migration of these contaminants to the groundwater. This component includes decontamination and disposal of the Quonset hut or other structures potentially

impacted by the cap, decontamination and disposal of USTs and environmental closure of the Main Building.

3. ***Main Plant Area Groundwater Plume:*** Extraction and treatment of groundwater via air stripping followed by carbon adsorption or U/V oxidation and subsequent reinjection of treated water to the aquifer to restore the Site groundwater to beneficial use.

4. ***Former Disposal Area/Mounded Area Soils:*** Excavation, off-site treatment and disposal of contaminated soils to reduce the potential for continued migration of contaminants in these soils to the groundwater.

5. ***Former Disposal Area/Mounded Area Groundwater Plume:*** Implementation of a Natural Attenuation program to monitor reduction of contaminant concentrations in groundwater to Maximum Contaminant Levels (MCLS).

3.0 OBJECTIVES OF PRE-DESIGN INVESTIGATION (PDI)

The Chemclene Site Defense Group (CSDG) and its consultants have reviewed the technical documents and the ROD and determined that:

- Additional data needs to be collected to effectively complete the remedial design.
- There may be opportunities to apply other remedial alternatives to meet the ROD objectives.

The CSDG has determined that it is necessary and advantageous to complete a Pre-Design Investigation to address the data gaps which create significant design uncertainties and to collect information to fully assess the potential to use other, potentially less costly remedial alternatives to meet the ROD objectives. This information is necessary to allow the CSDG to negotiate a Consent Decree or Administrative Order on Consent with the United States in connection with the Site.

4.0 PRE-DESIGN INVESTIGATION SCOPE OF WORK

The Scope of Work describes the components of a PDI necessary to develop a reliable design basis for the ROD remedy, as well as collect the additional information to evaluate other alternatives.

4.1 Initial Site Reconnaissance

During the PDI, there are areas where various media will require sampling for delineation or characterization. The primary purpose of the Initial Site Reconnaissance (ISR) is to make observations and collect information about each area to facilitate the overall planning and scoping of the Pre-Design activities. Information from the ISR will be the primary basis for the development of the PDI Work Plan and supporting plans (such as the Field Sampling Plan).

During the ISR, observations are to be documented in field notebooks. Also, photographic methods, audio tape recordings and video tape recordings are to be considered.

The following describes the overall objectives of the Initial Site Reconnaissance for each area of the Site.

4.1.1 ISR of the MPA

During the ISR of the MPA, the following is to be accomplished:

- Complete a detailed description of the physical condition and layout of the Quonset hut.
- Inspect the Main Building to identify potential sampling or other testing that may be needed to determine the suitability of the Main Building for long-term use in the cap design.
- Select boring locations for soil characterization/cap delineation.
- Determine the extent of debris characterization necessary to develop a Decontamination and Disposal Plan that is consistent with the requirements of the ROD.
- Evaluate any other structures that may need to be demolished to allow capping.
- Evaluate and confirm proposed locations for new wells (for monitoring, extraction or reinjection). Locations should be evaluated for access and other factors that might require a modification of the locations.
- Inspect and confirm the existence and potential contents of USTs and ASTs identified in Table 4-1 of the FS (the ISR does not include sampling of tank contents).

4.1.2 ISR of the FDA/MA

The PDI for the FDA/MA is to include soil and groundwater sampling. Therefore, the objectives of the ISR for the FDA/MA include (but is not necessarily limited to):

- Confirming the proposed locations for soil sampling.
- Confirming the existence and overall condition of existing wells (to be used for sampling).
- Evaluating the overall area for access limitations or other conditions which might affect the implementation of PDI work.

4.1.3 ISR of the Hillbrook Circle Area

The ROD requires the installation of a secondary water main in Hillbrook Circle and the connection of up to 52 houses. It is anticipated that the design and construction of the water main to Hillbrook Circle and residential hook-ups will be performed by the Philadelphia Suburban Water Company (PSWC). During the ISR, however, a reconnaissance of the area is to be conducted to verify the current status and schedule of future work to be performed by the PSWC relative to extension of the water main along Conestoga Road.

4.1.4 ISR of the Main Plant Building

The ROD remedy includes the closure of the Main Building (including the loading dock and chemical laboratory) in accordance with Chapter 25 of the PA Code and Title 40 of the CFR. Closure is to consist of the:

- Removal and disposal of all hazardous wastes.
- Decontamination of the floor, walls, process equipment and other structures in the building.

A Closure Plan for the Main Building is to be developed as part of the remedial design. A reasonable and thorough closure plan cannot be written, however, without additional information regarding the contents of the building which may require removal and disposal, nor the techniques and methods needed to decontaminate portions of the building.

An inspection/survey of the Main Building is to be performed during the ISR to inventory building contents and collect the necessary information to develop the pre-design sampling plan for this building.

4.2. Preparation of Project Plans

Before proceeding with any additional investigation/characterization work at the Site, EPA will require the submittal and its approval of a Pre-Design Investigation (PDI) Work Plan, along with the plans which support the PDI Work Plan.

The objective of this task, therefore, is to prepare a PDI Work Plan for this Site that will meet with EPA approval. The Work Plan is to describe in adequate detail the approach to implement each element of the PDI. This task also includes the preparation of all necessary supporting plans, such as a Field Sampling Plan/Sampling and Analysis Plan (FSP/SAP), Quality Assurance/Quality Control Plan (QA/QC) and a Site specific Health & Safety Plan (HASP). The PDI Work Plan and all supporting plans must be prepared in accordance with all applicable CERCLA guidance documents for conducting Remedial Design and Remedial Investigation under CERCLA.

The work described in the PDI Work Plan will be based on the information in existing documents (ROD, RI, FS) and the information collected during the Initial Site Reconnaissance task (see Section 3.1).

The proposal should include the following:

- Preparation of 10 copies of an initial draft of the Work Plan (and supporting plans) for distribution to the CSDG.
- A meeting with the CSDG to discuss the draft documents.
- Incorporation of Group comments into a final Work Plan.
- Final preparation of 10 copies of the Work Plan and supporting documents for distribution to the EPA, PADEP and the Group.

4.3 Pre-Design Investigation of Main Plant Area (MPA)

The pre-design investigation in the Main Plant Area is to focus on collecting additional chemical and physical data to design the remedy for the soil and groundwater. The following describes the pre-design investigation tasks, on a media basis.

4.3.1 Soil

The remedy requires capping of surface and subsurface soil in the MPA where contaminant concentrations exceed the clean-up standards specified in the ROD, including those soils beneath structures to be decontaminated and disposed (provided they exceed the ROD specified limits). The ROD identifies the Quonset hut as one

structure which will require decontamination and disposal. The ROD also states that the Main Building will serve as a cap over the underlying soils, provided it continues to provide a suitable barrier to surface water infiltration.

The ROD concedes that additional delineation of soil contamination is needed to define the limits of the required cap. Only samples from three (3) out of a total of twelve (12) borings (MPA-6, MPA-8 and MPA-9) completed during the Remedial Investigation exhibited VOC concentrations which exceeded the established limits. These borings were located in an area of former USTs and in an area of an AST.

With regard to the remedy for soil in the MPA, the following data gaps have been identified:

- Limit of soil which exceeds the ROD specified criteria.
- Nature and extent of contamination beneath the Quonset hut.
- Scope of effort to demolish, decontaminate and dispose of the Quonset hut.

The following pre-design tasks have been developed to collect the information needed to design the cap for the MPA soil and to develop a Decontamination and Disposal Plan for the Quonset hut and other structures targeted for removal (debris).

4.3.1.1 MPA Soil Borings

As stated above, additional delineation of soil contamination is needed to provide a basis for designing the size of the cap. This task consists of completing all soil borings necessary to delineate the cap limits. Borings are to be included to characterize soil quality beneath the Quonset hut, as well as other structures identified for decontamination and disposal during the Initial Site Characterization. Continuous split spoon samples of the soil are to be collected to a depth of split spoon refusal, or a total depth of 50 feet below the ground surface (whichever is encountered first) unless field sampling results support the continued advancement or termination of a particular boring. Field screening of soil samples for VOCs is to be performed and the field screening data utilized to select samples for laboratory analysis if deemed necessary.

The proposal should describe the rationale for locating all soil borings and the methods for screening and selecting soil samples for laboratory analysis.

4.3.1.2 MPA Debris Sampling

The nature of the debris on Site which may need to be removed for offsite disposal is unknown and therefore it is not possible to prepare an appropriate Decontamination and Disposal Plan during design without additional information. The objective of this task, therefore, is to provide an "up-front" characterization of any debris that may need to be decontaminated and disposed of in accordance with federal, state and local requirements. The data generated from this characterization is to be used to evaluate decontamination and disposal options for the debris and subsequently for the development of a Decontamination and Disposal Plan during the remedial design. The Quonset hut is identified in the ROD to be decontaminated and disposed of as part of the remedy. Other structures may also need to be removed or decontaminated to effectively design and/or implement the remedy.

The specific sampling locations, matrices and analytical methods to complete this task will be, in part, based on the results of the information generated during the Initial Site Reconnaissance. Using the information in the project documents and the information gathered during the pre-bid Site walk, the proposal should describe in reasonable detail the number, location and types (i.e., concrete sample, wipe sample, etc.) of samples and the methods to be used for collection and analysis.

4.3.1.3. MPA Additional Characterization (Contingent)

The ROD allows for the use of the Main Building in the design of the cap, provided it can be demonstrated that the Main Building can function as a long-term integral cap component. The objective of this task is to complete any physical or chemical testing of the Main Building which is needed to demonstrate that the Main Building can be incorporated into the cap design.

The proposal should provide rationale for any work believed necessary to meet the objective of this task. The specific sampling locations, matrices and analytical methods to complete this task will be, in part, based on the results of the information generated during the Initial Site Reconnaissance. Using the information in the project documents and the information gathered during the pre-bid Site walk, the proposal should describe in reasonable detail the number, location and types of samples needed and the methods to be used for collection and analysis.

4.3.2. Groundwater

Groundwater beneath the MPA is impacted by VOCs. The center of the VOC plume is interpreted by EPA to be located immediately east of the Main Building. The VOC plume has been defined using data from eleven (11) wells located in or adjacent to the MPA. The ROD remedy requires the design and implementation of a groundwater extraction and treatment system to prohibit further migration (e.g. contain) and actively restore to ARARs the groundwater in the MPA. The ROD specifies that the system will include extraction of groundwater in the immediate area of wells CC-6 and CC-7, which are suspected by EPA to contain DNAPL.

The remedy provides for the incorporation of natural attenuation in the system design and the ROD recognizes that Technical Impracticability (TI) issues could preclude attainment of ARARs within the groundwater containment area. Further, the ROD indicates that information to support an argument that it may be technically impracticable to attain ARARs within the containment zone may be generated during the operation of the groundwater remedial system.

The groundwater remediation system described in the ROD includes groundwater treatment via air stripping, followed by carbon adsorption and/or UV oxidation, with reinjection of treated groundwater. The zone/area for reinjection is proposed to be on the adjacent Township property, located hydraulically sidegradient or downgradient to the extraction zone. The groundwater extraction and reinjection system conceptualized in the Feasibility Study (FS) Report was based on a particle tracking model which simulated pumping/scenarios in the MPA. The FS states that existing monitoring wells could be utilized in the extraction system design, however additional wells will be needed for reinjection.

While the FS presents a conceptual extraction system, the RI Report recognizes an important data gap regarding the delineation of the plume to the north/northeast of the MPA. EPA has interpreted that the plume is moving from the Site to the north toward a fault, after which there is an eastward movement of groundwater along the fault zone (Sloto, USGS Water Resources Investigation Report 96-4286, 1996). If this interpretation is accurate, then the extraction scenario presented in the FS Report may not be optimal, particularly considering the potential presence of DNAPL. In addition to implications associated with an extraction system, a clearer understanding of the orientation or axis of the groundwater plume is needed to complete an assessment of natural attenuation.

The PDI for groundwater in the MPA is to provide information needed to design an optimal groundwater extraction/treatment system. This will require the installation and testing (hydraulic and chemical) of select wells to:

- Confirm the plume orientation and hydraulics of the groundwater system.
- Assess natural attenuation processes.
- Assess influent concentrations, flow rates and reinjection capacity and any geotechnical data necessary to construct the treatment plant.

4.3.2.1 Installation of Additional Wells in the MPA

To collect the groundwater quality and hydraulic data needed to generate a sound design, it will be necessary to install additional wells in the MPA. The installation of wells further northeast of the MPA will be needed to confirm the orientation of the VOC plume and provide additional information regarding the hydraulics of the groundwater system in the area of the interpreted fault. The installation of wells may also be necessary to determine the feasibility of reinjecting groundwater in the area west of the MPA and to collect information required to design the treatment system.

When evaluating the need to collect this information, the proposal should consider the use of existing wells. New wells should be located to provide information that can be used for multiple objectives. The proposal should describe in detail the number of wells, rationale for locating new wells, drilling methods, depths, handling of drilling fluids, etc. Further, it should consider the need and describe in detail any testing required for the purpose of locating and/or logging monitoring wells (i.e., surface geophysics, downhole video and/or logging, etc.).

4.3.2.2 Groundwater Sampling

The primary objectives of this task is to collect information regarding groundwater quality which will allow for:

- An assessment of the concentration and distribution of the groundwater contamination (e.g. plume mapping).
- An evaluation of natural attenuation processes.
- Determining the appropriate capture zone for the groundwater extraction system.

To achieve these objectives, it will be necessary to collect a complete round of groundwater samples for VOC analysis from all of the existing and newly installed wells. In addition, it will be necessary to sample for parameters needed to assess natural attenuation processes and to evaluate the potential for natural attenuation to be incorporated in the overall groundwater remedy.

EPA-preferred low flow sampling methods are to be employed for all groundwater sampling. Further, to the extent practical, use of in-field measurements are to be maximized.

The proposal must provide a detailed description of the groundwater sampling program needed to provide a current and accurate assessment of groundwater contamination. The proposal must also include the rationale for selecting wells to allow a natural attenuation assessment, the sampling protocol to be employed and the analytical parameters and methods for analysis. The list of analytes to be included for the natural attenuation assessment should be consistent with applicable guidance documents. A description of the number of samples, purge volumes and the disposition of purge water generated during sampling must also be included in the proposal.

4.3.2.3 Study of Potential Methods to Enhance Well Yield

The Feasibility Study Report recommends that efforts should be made to enhance the capacity of any extraction well used to capture groundwater contamination. Of the wells considered in the FS for extraction, well CC-22 has the lowest reported specific capacity (0.17 gpm/ft.). The objective of this task is to complete a field study of potential well enhancement techniques, focussing on well CC-22. Due to the potential presence of DNAPLs, hydraulic fracturing is not believed to represent a viable alternative at this time. Therefore, the study should focus on those well enhancement techniques which will not have the potential to adversely affect the DNAPL that may be present.

The proposal should describe in detail the methods to be used during this evaluation and how the information from the evaluation will be incorporated into the design. The proposal should also include discussions regarding the handling and disposition of fluids which are generated as a result of this task.

4.3.2.4 Aquifer Performance Testing

The data generated during the RI relative to the hydraulic characteristics of the aquifer may not be adequate to optimize the extraction and treatment system design given the uncertainties regarding the fate and transport of contaminants north of the MPA. Therefore, the objective of this task is to complete aquifer performance testing to collect data to optimize the extraction and injection system design. Pumping/injection tests must sufficiently stress the aquifer so that the appropriate aquifer parameters can be obtained and the necessary calculation completed. Responses are to be measured in each test well(s) and monitoring/observation wells to evaluate preferred flow paths within the bedrock aquifer system. The significance of the interpreted fault zone immediately north of the MPA is to be considered in the development of the performance testing program (i.e., area for potential extraction and/or reinjection).

The proposal should provide a detailed description of the performance testing program to collect the needed design information. The proposal must include the rationale for the proposed testing, the nature and duration of the testing to be performed, any test wells and observation wells to be included in the program and the data analysis to be conducted. The management of water (if pumping test(s) are proposed) and any other elements relevant to the scoping of this task must also be addressed in the proposal.

4.3.2.5 Treatment Plant Performance Data

The ROD requires the use of air stripping followed by granular carbon and/or UV/oxidation to treat extracted groundwater. There is inadequate data from the RI to determine the specific treatment train which will be needed (or the capacity it must be able to treat). The objective of this task, therefore, is to collect and analyze groundwater data needed to optimize the treatment plant design (i.e. treatment process). This task is to include an assessment of influent water quality and will consider source area and additional pumping location(s) to develop realistic design parameters. This task is also to include any bench scale studies or pilot testing that may be required to further refine the groundwater treatment process. Sampling and testing associated with this task is to be coordinated with the aquifer performance testing to obtain data reflective of actual pumping conditions and to minimize groundwater handling and disposal efforts.

The proposal should provide a detailed description of the information needed to design the treatment system, including the number of samples to be obtained and test methods to be used.

4.3.2.6 Treatment Plant Location Study

The FS Report identifies a location for the treatment plant within the MPA. It is not known, however, whether the soils/foundation in this area are suitable for supporting a treatment plant. In addition, it is not confirmed that the location in the FS is optimal or that it will not interfere with the other components of the MPA remedy. The objective of this task, therefore, is to collect the appropriate geotechnical data and other information to support the location and design of the treatment plant. It is to include performing sufficient soil borings in the anticipated location(s) of the treatment plant to verify that the subsurface soils are suitable to support the foundation structure. The study should also evaluate the suitability of existing on-site structures for housing the treatment plant.

The proposal should describe the rationale for selecting a location for the treatment plant (if different from the location assumed in the FS) and any geotechnical work which will be required to design the treatment plant, including the location and number of samples and the testing required.

4.4 Pre-Design Investigation For MPA Main Building Closure

As described in Section 3.2.5 (ISR of Main Building), the ROD requires the Main Building to be closed in accordance with Chapter 25 of the PA Code and Title 40 of the CFR. Any hazardous contents of the building are to be properly characterized and disposed. In addition, the interior elements of the building are to be decontaminated using verifiable methods.

During the ISR, an inventory of the building is to be completed to allow for the development of a PDI Sampling Plan. This task involves the implementation of the PDI Sampling Plan for the Main Building.

To the extent possible based on the project documents and information gathered during the pre-bid Site visit, the proposal should identify the scope of work anticipated to properly characterize the material in the Main Building so that a comprehensive Closure Plan can be developed during the design.

4.5 Sampling and Characterization of MPA Underground(USTs)/Aboveground Storage Tanks (ASTs)

Chemclene

The ROD remedy includes the proper decontamination and disposal or reuse of previously excavated USTs in accordance federal, state and local requirements. These tanks, which are described in Table 4-1 of the FS Report, are reported to be stored on the property adjacent to the Chemclene facility. In addition, the ROD also requires proper decontamination and disposal of ASTs which will be impacted by the cap design (also inventoried in Table 4-1). During the ISR described above, the information in Table 4-1 of the FS is to be confirmed and information collected to develop a sampling plan for the USTs and ASTs. The purpose of this task is to implement the sampling plan that will lead to a better understanding of the potential disposal or decontamination requirements so that a detailed Decontamination and Disposal Plan for the USTs (including applicable ASTs) can be developed during the design. The contents of ASTs will also be sampled if the contents of these tanks cannot be verified through proper documentation.

The anticipated sampling to be performed should be quantified to the extent practical in the proposal, based on the project documents and the observations made during the pre-bid walk. The final sampling plan will be determined after the ISR is complete.

4.6. Pre-Design Investigation of the Former Disposal Area/Mounded Area (FDA/MA)

The pre-design investigation in the former disposal area/mounded area is to focus on collecting additional chemical and physical data to design the remedy for the soil and groundwater. The following describes the pre-design investigation tasks, on a media basis.

4.6.1 Delineation of FDA/MA Soils Requiring Remediation

The remedy for the soils in the FDA includes excavation, off-site thermal treatment and disposal of an estimated 5,700 cubic yards of soil containing contaminant concentrations exceeding the ROD-established Soil Clean-up Standards. The source of the contaminants is suspected by EPA to be drummed distillation residue from the solvent recycling process which was buried in the FDA/MA. The drums and surrounding soils were subsequently removed from the area between 1981 and 1984. Three (3) of the six (6) borings performed in the FDA/MA in 1996 had reported soil contaminant concentrations exceeding the ROD specified performance standards (FDA-3, FDA-4 and FDA - 5). PCBs were not included in the analysis of previous subsurface

samples. Additional delineation of soil contamination, including PCB analysis, is necessary in the FDA/MA to define the limits of soil requiring remediation.

Also, and as described in a later section of this SOW, it is not clear why some of the other remedial alternatives considered for the soil in the FDA/MDA were not selected (i.e. in-situ or ex-situ SVE). Accordingly, a second objective of the PDI in this area is to collect any information which might allow other remedial alternatives to be considered, or reconsidered.

Soil borings are to be completed to obtain any soil characterization data needed for design. The soil boring work is to be performed in conjunction with work at the MPA to minimize redundancy in implementation and administrative elements of the program (e.g., mobilization, access, equipment, resources). Based on the data in the RI, continuous split spoon samples should be collected to a total depth of 25 feet below the ground surface or until split spoon refusal is encountered. Field screening of samples is to be performed to select samples for laboratory analysis.

The proposal should describe the rationale and provide locations for any soil borings needed to achieve the objectives of this task. A detailed description of field screening procedures and the basis for selecting samples for laboratory analysis should also be provided.

4.6.2 Pre-Design Investigation of the Groundwater in the FDA/MDA

Groundwater at the FDA/MA is impacted by VOCs, as currently defined by eight (8) monitoring wells located within or immediately adjacent to the FDA/MA. Monitoring well CC-5 exhibits the highest total VOC concentrations in the FDA. The RI Report concludes that a VOC plume extends off-site in a southerly or southeasterly direction from the FDA/MA. EPA has concluded that this contamination ultimately impacts residential wells in the Hillbrook Circle development. The sporadic presence of VOCs in Hillbrook Circle's residential wells suggests the potential presence of other contaminant sources in the area (e.g. septic system impact). The RI Report also indicates groundwater flow directions which, at times, appear to be in a northeastwardly direction, possibly in response to stresses induced from pumping at a nearby quarry. The ROD remedy for the groundwater in the FDA/MA is natural attenuation. The ROD requires that a natural attenuation groundwater monitoring program be developed to confirm that natural attenuation is occurring and to ensure that the groundwater plume is not migrating beyond its current limits. A Natural Attenuation Monitoring Plan must be developed as part of the design and must be implemented until the performance standards identified in the ROD are achieved. The

Plan is to include sampling of groundwater discharging to, and of surface water in, Valley Creek.

Addition information is needed to develop the Natural Attenuation Monitoring Plan, including:

- Further characterization of the hydrogeologic conditions in the FDA/MA.
- The presence and rate of natural attenuation occurring in the Site plume.

The following pre-design tasks have been identified to achieve these objectives.

4.6.2.1 Hydrogeologic Evaluation

Additional hydraulic data is needed to further characterize groundwater flow directions in the FDA/MA. This effort is to be coordinated with water level monitoring performed in the MPA so that contemporaneous water level measurements are collected on a site-wide basis. The monitoring will provide a better understanding of preferred flow directions at the Site and will be used to facilitate the assessment of natural attenuation. The monitoring program is to also include an assessment of temporal changes in groundwater flow directions associated with external aquifer stresses.

The proposal should provide a detailed description of the hydraulic monitoring program needed to achieve these objectives. The proposal should also consider and address the adequacy of the existing monitoring well network with regard to performing the hydrogeologic and natural attenuation assessment.

4.6.2.2 Groundwater Sampling

To accurately assess the current status of the plume and assess the presence and rate of natural attenuation which is occurring, an updated interpretation of the extent of groundwater contamination is needed. This task includes sampling the FDA/MA wells for VOCs and parameters needed to assess natural attenuation. Sampling is to be coordinated with the MPA activities to minimize duplication of effort and collect contemporaneous Site data. The results of the groundwater sampling are to be incorporated in the groundwater modeling work described in Section 3.9 Data Analysis.

The proposal should provide the rationale for selecting wells to be included in the groundwater sampling program for this area and the specific parameters and testing needed to complete an evaluation of natural attenuation.

4.7 Public Water Supply

This ROD requires the installation of a secondary water main from Conestoga Road through the Hillbrook Circle area and connecting residents affected or potentially affected by contamination from the Site. The ROD identifies a list of 52 residents in Hillbrook Circle to be connected to public water. The design and construction of the water main must be in accordance with applicable Federal, State and local regulations and requirements.

It is anticipated that the design and construction of the public water will be performed by the PSWC. Therefore, no additional investigation related to the public water supply (apart from ISR confirmation) should be included in the proposal.

4.8 Site Surveying

While the Site has been surveyed as part of the RI, the PDI will involve the installation of additional wells, test borings and other work which will require permanent documentation.

The proposal should describe the surveying work to be completed to document the PDI work and any other features or information needed for design. All surveying will be performed in accordance with applicable requirements and standards.

4.9 Data Analysis

This task consists of the tabulation and assessment of the pre-design investigation data to develop a design basis for each component of the Site remedy. It is to include (but is not limited to) necessary modeling or analysis to evaluate and develop the groundwater and natural attenuation remedy components for the Site.

The proposal should provide specific detail regarding the level of data assessment needed. To the extent practical, the previous modeling work should be considered in the scoping of this task.

4.10 Pre-Design Investigation Report

A Pre-Design Investigation Report is to be produced for EPA review and approval following completion of the pre-design activities. This primary objective of this document will be to serve as the basis for the remedial design. To that end, the report is to include a detailed summary of all the pre-design work and results, including an assessment of the remedy components relative to the data collected. The Report is to include (but not be limited to) estimates of soil remediation limits (including depths and volumes), a natural attenuation assessment and an assessment of groundwater contaminant fate and transport for the MPA and FDA/MA. All of the data, modeling and calculations are to be included as tables or appendices to the report.

Ten (10) copies of an initial draft of the report will be distributed to the CSDG for internal review and comment. Upon incorporation of CSDG comments, fifteen (15) copies of a final draft Pre-Design Investigation Report will prepared for distribution to EPA, PADEP and the CSDG.

4.11 Additional Pre-Design Studies to Evaluate Other Remedial Alternatives

In addition to the pre-design investigations needed to support the ROD remedy, the CSDG is interested in the potential that other remedial alternatives might more cost-effectively satisfy the objectives of the ROD. This section of the SOW addresses the assessment of alternate remedial technologies that may realistically be effective at the Site and the collection of pre-design information to confirm the viability of these remedial alternatives.

4.11.1 Evaluation of Soil Clean-up Standards

The ROD specifies cleanup criteria for soil at this Site. A preliminary review of these limits suggests they may not be consistent with other CERCLA and PA Act II sites. In addition, it is not clear if the assumptions used by EPA in developing these site-specific standards are reasonable and appropriate.

The objective of this effort is to review and evaluate the methods used by EPA to develop the ROD Soil Clean-up Standards for this Site. This review should evaluate the validity of the underlying assumptions and, if applicable, the application of realistic assumptions and methods to develop technically defensible clean-up alternatives for the CSDG to consider. A technical memorandum to the CSDG is to be prepared detailing how EPA derived the standards for the Site and a professional opinion regarding the validity of the assumptions. The technical memorandum should also

identify and compare the cleanup standards to those imposed by EPA at other similar sites. The proposal should present a preliminary assessment of the clean-up standards in the ROD and whether there may be value in challenging the basis for these standards.

4.11.2 Alternative MPA Groundwater Remedial Technologies

The groundwater remedy for the MPA includes active restoration of the aquifer, including source area/plume pumping and natural attenuation. The inferred presence of DNAPL in the technical documents suggests that long-term extraction/treatment of groundwater may be necessary for source control or containment of the MPA groundwater plume. This is consistent with regulatory guidance even for technical impracticability. ARARs may be waived within the containment or control zone but the guidance still requires that containment or control be maintained if the source cannot be effectively remediated to MCLs. Considering the potential long term costs associated with operation of a pump and treat system, the CSDG is interested in reviewing alternative technologies that may be able to meet the ROD objectives.

Alternatives which have been conceptually discussed include in-situ methods such as peroxidation, enhanced biological treatment (i.e. molasses) and reactive iron methods. Two potential areas where these treatment media may be introduced are the source area (i.e., CC-6 and CC-7) or within the fault zone which the USGS has identified as a major flow feature controlling plume migration in the MPA.

The proposal should provide a technical discussion regarding the efficacy of these or other alternatives to pump and treat that may be effective at the Site. This discussion should provide a realistic review of these alternatives relative to their application at the Site.

Additionally, the proposal should identify the pre-design tasks which would be necessary to further evaluate these alternatives for the purpose of design including, if necessary, the need to confirm and delineate DNAPL. Where possible, these efforts should be coordinated with the PDI for the ROD remedy to minimize duplication of effort. In particular, this should be considered in the collection or development of any hydrogeologic information or performance data needed to assess other alternatives.

4.11.3 FDA/MA Soil Remedy

The selected remedy for impacted soil in the FDA/MA is excavation with off-site thermal destruction and disposal. This was the most cost intensive alternative

evaluated in the FS for FDA/MA, based on the estimated volume. There is not a clear technical basis for EPA's decision to eliminate some of the other alternatives. For example, SVE was retained as an alternative, but in the final analysis was not selected even though it appeared equally protective and significantly less cost intensive (providing that it could be effectively implemented in the FDA/MA soil).

The objective of this effort is to evaluate if other remedial alternatives for the soil deserve further consideration. Soil borings are to be conducted during the PDI which will provide a more complete basis for estimating the volume of soil to be remediated. This review, therefore, is to include a re-calculation of remediation costs, given current soil volume estimates, analytical data and current treatment and disposal costs. A revised cost comparison between the selected remedy and equally applicable technologies is to be provided in a technical memorandum for consideration by the CSDG. If the results of the technical evaluation indicate that other remedial alternatives deserve reconsideration, additional pre-design studies will be performed to further assess and provide for the design of an alternative remedy for the FDA/MA soil. This may include pilot testing to evaluate the effectiveness of SVE or other in-situ or ex-situ treatment methods deemed viable.

The proposal should separately describe the pre-design testing associated with alternatives which may be realistically applicable. The proposal should describe in detail the potential scope of the pre-design investigation and the rationale for continuing with a potential alternative. In addition, the proposal should address the integration of activities with the PDI needed to design the ROD remedy to minimize redundancy in the program elements. For example, this may include the collection of soil permeability data or the installation of pilot test wells during the FDA/MA soil boring program to eliminate the need for additional drilling.

5.0 COST PROPOSAL REQUIREMENTS

The cost estimate to complete the Pre-Design work and other services identified herein should be detailed and summarized in accordance with the example tables attached to this RFP. The proposal should clearly state all assumptions associated with costing of the work, including any mark-ups to be applied to direct expense or subcontracted services.

While the CSDG recognizes that some of the tasks may be modified slightly pending the results of Task 1 (Initial Site Reconnaissance), the proposal should reflect a "best" engineering estimate of the anticipated level of effort based on a review of the information referenced in this RFP and observations from the pre-bid Site walk. A

demonstrated understanding of all of the tasks and their estimated cost will be considered during review of the proposals and any potential interviews.

If a bidder wishes to suggest modifications to this scope of work, a separate bid for the proposed modifications shall be included in this response to the proposal.

6.0 PRE-DESIGN INVESTIGATION SCHEDULE

The proposal should include a schedule for completion of the Pre-Design Investigation. This schedule should illustrate the duration and integration of each of the pre-design tasks (including potential services responding to Section 4.11 of this RFP) to maximize the efficiency of the field effort. The schedule should also indicate a critical schedule path so that areas of schedule "float" may be observed. The schedule will be reviewed in terms of projected duration as opposed to start and end dates since these have not been defined at this time.

7.0 RELEVANT QUALIFICATIONS AND EXPERIENCE

The proposal should include qualifications and experience of your firm and the individuals proposed for this project. The qualifications and experience should be detailed, specific and relevant to the anticipated services associated with this RFP. It should include qualifications and experience related to the design and implementation of alternative remedial technologies as discussed in Section 4.11 of the RFP. Resumes and references for key project personnel should also be provided for review. The proposal should not include ancillary corporate "boiler plate" information.

8.0 PREPARATION AND SUBMITTAL OF BIDS

Ten (10) copies of the proposal will be prepared and distributed as follows:

John Cutrone
Lucent Technologies, Inc.
475 South Street,
Room 2S009
Morristown, NJ 07962
Phone: 973-606-2464

Kevin Krueger
Unisys Corp.
3199 Pilot Knob Road
Eagan, MN 55121
Phone: 612-687-2210

Kathryn Chellman
739 Clovelly Lane
Devon, PA 19333
Phone: 610-341-0921

William Ponticello
Penn E&R
2755 Bergey Road
Hatfield, PA 19440
Phone: 215-997-9000

Robin Thomas
Bulova Technologies, LLC
101 N. Queen Street
Lancaster, PA 17604-4787
Phone: 717-299-2581

Richard McGuire
Action Manufacturing Co.
100 E. Erie Avenue
Philadelphia, PA 19134
Phone: 215-739-6400

Melissa Henck
Lockheed Martin Missiles
& Space (0/47-10, B/101)
1111 Lockheed Martin Way
Sunnyvale, CA 94088
Phone: 408-742-0257

Mark Stevens, Esq.
Langsam, Stevens & Morris
1616 Walnut Street
Suite 812
Philadelphia, PA 19103
Phone: 215-732-3255

Chris Young **(2 Copies)**
de maximis, inc.
1125 South Cedar Crest
Suite 202
Allentown, PA 18103
Phone: 610-435-1151

Proposals are due by close of business on September 24, 1998. Questions regarding the RFP should be directed to Chris Young of ***de maximis, inc.*** at (610) 435-1151. Based on the questions received, a list of clarifications will be prepared by the CSDG and distributed to all of the bidders. If, in review of the proposals, it is determined that additional information by the bidder(s) is required, the CSDG may call upon the bidder(s) to clarify their bids.

While it is the CSDG intent to retain general contracting services, the CSDG makes no commitment to obtain services or take any other action by this RFP including, but not limited to, awarding the contract to the respondent submitting the lowest cost proposal. CSDG makes no representations, warranties, agreements or commitments by this RFP. Any resources expended in responding to this RFP are expended solely at the discretion of the individual or entity responding. Any and all submissions will be provided at no cost to CSDG.

Work (including any pre-bid and bid-related work) on the PDI will be performed for the CSDG's Liaison Counsel in anticipation of litigation. For this reason, all information on this project must be kept in strictest confidence, with disclosure only to Liaison Counsel, designees of Liaison Counsel, and employees of the consultant with a need to know. No disclosure may be made to any other person or entity without the express written consent of the Liaison Counsel. Further, all documents (including without limitation field notes, deliverables, invoices, bids, drafts, and drawings) must be prominently marked on the cover page, on all other pages which may be separated from the cover page, and (where practical) on every page with the following caption:

PRIVILEGED AND CONFIDENTIAL
ATTORNEY-CLIENT COMMUNICATION
AND ATTORNEY WORK-PRODUCT

The caption may be removed/excluded from certain documents only at the specific instruction of the Liaison Counsel.

In addition, if Pennsylvania has any other applicable privilege or confidentiality law or rule, please include it as well.

9.0 EVALUATION OF BIDS

Once the CSDG has reviewed the proposals, the CSDG may elect to hold an interview with potential candidates. If an interview is preferred, your firm will be notified to select a mutually accessible location, date and time. The interview, if held, will allow candidates to verbally express their understanding of the project and their proposals within a one-hour time frame.

While the CSDG reserves the right to reject any and all proposals, selection will be based upon overall evaluation of the following criteria:

- Understanding the project
- Understanding the CSDG's goals
- Experience and credentials of the firm and the proposed project team, especially in the areas of conducting pre-design/design work in Superfund, innovative technologies, technical impracticability and natural attenuation assessments
- Cost (including the ability to provide realistic, clearly defined estimates)
- Location
- References

10.0 CONTRACT

The successful bidder is expected to execute a contract in substantially the form of the example PRP Contract included with this RFP.

All responses to the RFP shall include an acknowledgment by the bidder of its willingness to execute the PRP Contract. If a bidder requires any changes to the PRP contract, such changes shall be detailed in the response to the RFP. The CSDG will consider any such changes in its evaluation of the bidder's response to the RFP.